

Translation

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 139810-941	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP2003/005779	International filing date (day/month/year) 08 May 2003 (08.05.2003)	Priority date (day/month/year) 23 July 2002 (23.07.2002)
International Patent Classification (IPC) or national classification and IPC G02B 6/36		
Applicant KOHOKU KOGYO CO., LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 18 December 2003 (18.12.2003)	Date of completion of this report 21 April 2004 (21.04.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2003/005779

**I. Basis of the report****1. With regard to the elements of the international application:\*** the international application as originally filed the description:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the claims:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, as amended (together with any statement under Article 19)

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the drawings:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the sequence listing part of the description:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:** contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.**4.  The amendments have resulted in the cancellation of:** the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheets/fig \_\_\_\_\_**5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/JP 03/05779

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-8	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-8	NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims		NO

## 2. Citations and explanations

Document 1: JP 64-44403 A (Fujitsu Ltd.), 16 February 1989

Document 2: JP 2002-156548 A (Kyocera Corp.), 31 May 2002

Document 3: JP 2002-40293 A (Kyocera Corp.), 6 February 2002

Document 4: EP 760488 A1 (NGK Insulators, Ltd.), 5 March 1997

Document 5: JP 8-19878 A (Ricoh Co., Ltd.), 23 January 1996

The invention described in claims 1 to 4 does not involve an inventive step in the light of document 1 and documents 3 and 4 cited in the international search report and newly cited document 5.

A person skilled in the art could easily conceive of setting the positioning accuracy of the groove into which an optical fiber is inserted, disclosed in documents 1 and 5, to 0.05 µm, as disclosed in document 3 (paragraph [0027]), and of setting the degree of parallelization of the groove into which an optical fiber is inserted, disclosed in document 1, to 0.01° or less, as disclosed in document 4 (page 5, lines 39 to 41).

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**International Application No.  
PCT/JP 03/05779

The invention described in claims 5 to 8 does not involve an inventive step in the light of documents 1 to 4 cited in the international search report and newly cited document 5.

When using laser irradiation to inscribe a groove into which an optical fiber is inserted, disclosed in documents 1 and 5, a person skilled in the art could easily conceive of irradiating the laser intermittently, or namely, in a pulsed fashion, as disclosed in document 2 (paragraph [0036]) or document 3 [paragraph 0033]). Further, a person skilled in the art could also easily conceive of subjecting the inner walls of the groove formed by laser processing to an etching treatment, as disclosed in document 2 (claim 5, paragraph [0015]) or document 3 (claim 8, paragraphs [0029] and [0039]).